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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,271	03/10/2004	Glenn Algie	7000-248	2945
27820 7590 07/07/2010 WITHROW & TERRANOVA, P.L.L.C. 100 REGENCY FOREST DRIVE SUITE 160 CARY, NC 27518			EXAMINER NGUYEN, ANH NGOC M	
			ART UNIT 2473	PAPER NUMBER
			MAIL DATE 07/07/2010	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/797,271	Applicant(s) ALGIE ET AL.	
	Examiner Anh Ngoc Nguyen	Art Unit 2473	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-10, 12-20 is/are rejected.
- 7) ☒ Claim(s) 5 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Response to Amendment

1. Applicants' Arguments/Remarks filed April 28, 2010 with respect to claims 1 – 20 have been considered but are moot in view of the new ground(s) of rejection.

Applicants' arguments with respect to the rejection of claims 7 – 12 and 17 – 20 under 35 U.S.C. § 101 has been considered and is persuasive. The method of claim 7 is tied to another statutory category such as a particular apparatus. Accordingly the rejection is withdrawn.

Claims 1 – 20 are pending.

2. In view of the appeal brief filed on April 28, 2010, PROSECUTION IS HEREBY REOPENED. New grounds of rejection set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/KWANG B. YAO/

Supervisory Patent Examiner, Art Unit 2473

DETAILED ACTION

Allowable Subject Matter

3. Claims 5 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3, 4, 7, 9, 10, 15, 16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patel et al. (US PN. 5,883,894) in view of Dove (US Pub. No. 2003/0174726).

Regarding claim 1, Patel discloses an adaptive interconnect (see Fig. 1, network device 100) for providing an interface between multiple modules (see Fig. 1, end stations 107-0 to 107-n-1...) and a control system (see Fig. 1, 104) comprising: a) a control system interface (see Fig. 1, bi-directional arrows coupled to 104); b) a plurality of module interfaces (see Fig. 1, port 0 to port n-1); and c) adaptive interconnect logic (see Fig. 1, 110) associated with the control system interface (see Fig. 1, bi-directional arrows coupled to 104) and the plurality of module interfaces (see Fig. 1, port 0 to port n-1) and adapted to:

i) negotiate with a module (see Fig. 1, end stations 107-0 to 107-n-1...) over a control path (see Fig. 1, 106-0 to 106-n-1) via one of the plurality of module interfaces (see Fig. 1, port 0

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to port n-1) to identify an interface personality for the module (see col. 2 lines 52 – 67 and col. 4 lines 30 – 40, implementing an auto-negotiation state machine in each of the ports 102-0 through 102 n-1 to resolve a mode of operation for each of the ports...therefore for identifying a mode of operation to be used for each of the ports...);

ii) select the interface personality based on negotiations with the module (see col. 2 lines 60 - 65, executing an auto-negotiation protocol for the selected port to resolve a mode of operation...see col. 4 lines 20 – 25, each of the end stations (or other network terminals) has a respective mode of operation according to the LAN technology...col. 4 lines 30 – 40 lines 60 – 63, implementing an auto-negotiation state machine in each of the ports...); and

iii) apply the interface personality to the one of the plurality of module interfaces (see col. 2 lines 65 - 67, col. 5 lines 18 - 22, changing the status of the selected port from unresolved to resolved...col. 4 lines 59 - 63, when the auto-negotiation function 200 completes resolving the mode of operation for a select port, a DONE signal is supplied to the master state machine...note: by resolving the mode of operation, the auto-negotiation function has determined a mode that can be applied to the port...).

Regarding claim 3, Patel discloses wherein the adaptive interconnect logic is further adapted to renegotiate with the module over the control path if initial negotiations fail (see col. 2 lines 60 – 65, col. 4 lines 60 – 67 + col. 5 lines 1 – 5 lines 38 – 44).

Regarding claim 4, Patel discloses wherein if the renegotiation fails, the adaptive interconnect logic is further adapted to send a notification of failure (see col. 2 lines 30 – 38, col. 3 lines 1 - 5 and col. 5 lines 9 - 14, the unresolved state indicates the mode of operation has not been resolved for the link on the corresponding port).

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Regarding claim 7, Patel discloses a method for providing an interface between multiple modules (see Fig. 1, end stations 107-0 to 107-n-1...) and a control system (see Fig. 1, 104) comprising: a) negotiating with a module (see Fig. 1, end stations 107-0 to 107-n-1...) over a control path (see Fig. 1, 106-0 to 106-n-1) via one of a plurality of module interfaces (see Fig. 1, port 0 to port n-1) to identify an interface personality for the module (see col. 2 lines 52 – 67 and col. 4 lines 30 – 40, implementing an auto-negotiation state machine in each of the ports 102-0 through 102 n-1 to resolve a mode of operation for each of the ports...therefore for identifying a mode of operation to be used for each of the ports...);

b) selecting the interface personality based on negotiations with the module (see col. 2 lines 60 - 65, executing an auto-negotiation protocol for the selected port to resolve a mode of operation...see col. 4 lines 20 – 25, each of the end stations (or other network terminals) has a respective mode of operation according to the LAN technology...col. 4 lines 30 – 40 lines 60 – 63, implementing an auto-negotiation state machine in each of the ports...); and

c) applying the interface personality to the one of the plurality of module interfaces (see col. 2 lines 65 - 67, col. 5 lines 18 - 22, changing the status of the selected port from unresolved to resolved...col. 4 lines 59 - 63, when the auto-negotiation function 200 completes resolving the mode of operation for a select port, a DONE signal is supplied to the master state machine...note: by resolving the mode of operation, the auto-negotiation function has determined a mode that can be applied to the port...).

Regarding claim 9, Patel discloses further comprising renegotiating with the module over the control path if initial negotiations fail (see col. 2 lines 60 – 65, col. 4 lines 60 – 67 + col. 5 lines 1 – 5 lines 38 – 44).

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Regarding claim 10, Patel discloses wherein if the renegotiation fails, further comprising sending a notification of failure (see col. 2 lines 30 – 38, col. 3 lines 1 - 5 and col. 5 lines 9 - 14, the unresolved state indicates the mode of operation has not been resolved for the link on the corresponding port).

Regarding claim 15, Patel discloses wherein the interface personality further defines signal levels for communications with the module (see col. 1 lines 40 - 44).

Regarding claim 16, Patel discloses wherein the interface personality further defines an acceptable protocol for communications with the module (see abstract, col. 1 lines 40 – 60, col. 2 lines 19 – 23 lines 62 - 65, col. 4 lines 20 – 40 and col. 5 lines 34 - 38).

Regarding claim 19, Patel discloses wherein the interface personality further defines signal levels for communications with the module (see col. 1 lines 40 - 44).

Regarding claim 20, Patel discloses wherein the interface personality further defines an acceptable protocol for communications with the module (see abstract, col. 1 lines 40 – 60, col. 2 lines 19 – 23 lines 62 - 65, col. 4 lines 20 – 40 and col. 5 lines 34 - 38).

Patel discloses the claimed limitations as stated above however Patel does not explicitly disclose regarding claim 1, the applied interface personality provides an appropriate interconnection via a plurality of pins; regarding claim 7, the applied interface personality provides an appropriate interconnection via a plurality of pins; regarding claim 14, wherein the adaptive interconnect logic negotiates with the module using the control pins; regarding claim 18, wherein the negotiating step with the module is performed using the control pins.

Regarding claim 1, Patel in view of Dove discloses the applied interface personality provides an appropriate interconnection (see Patel: Fig. 1, col. 2 lines 54 – 67, method for

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automatically negotiating a mode of operation for a set of ports on a network device...by monitoring the status of ports...by resolving a mode of operation...note: each port is coupled to an end station that has a respective mode of operation at col. 4 lines 20 – 40, see col. 4 lines 40 – 67...implementing auto-negotiation in order to resolve a mode of operation to communicate with the end stations through the ports..) between the control system interface (see Patel: Fig. 1, bi-directional arrows coupled to 104) and the one of the plurality of module interfaces (see Patel: Fig. 1, port 0 to port n-1) via a plurality of pins (see Patel: col. 1 lines 40 – 45, auto-negotiation function which specifies physical layer signaling for 10 megabit per second and 100 megabit per second LAN technologies which utilize twisted pair wiring; see Dove: para. 0003, assigning different connector pins to the wires in the twisted pair cable..also see para. Fig. 3, pins 1 – 8, para. 0022, 0032).

Regarding claim 2, Patel in view of Dove discloses wherein different interface personalities can be implemented simultaneously among the plurality of module interfaces (see Patel: col. 4 lines 30 – 40; see Dove: para. 0038).

Regarding claim 7, Patel in view of Dove discloses the applied interface personality provides an appropriate interconnection (see Patel: Fig. 1, col. 2 lines 54 – 67, method for automatically negotiating a mode of operation for a set of ports on a network device...by monitoring the status of ports...by resolving a mode of operation...note: each port is coupled to an end station that has a respective mode of operation at col. 4 lines 20 – 40, see col. 4 lines 40 – 67...implementing auto-negotiation in order to resolve a mode of operation to communicate with the end stations through the ports..) between the control system (see Fig. 1, 104) and the one of the plurality of module interfaces (see Patel: Fig. 1, port 0 to port n-1) via a plurality of pins (see

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Patel: col. 1 lines 40 – 45, auto-negotiation function which specifies physical layer signaling for 10 megabit per second and 100 megabit per second LAN technologies which utilize twisted pair wiring; see Dove: para. 0003, assigning different connector pins to the wires in the twisted pair cable..also see para. Fig. 3, pins 1 – 8, para. 0022, 0032).

Regarding claim 8, Patel in view of Dove discloses wherein different interface personalities can be implemented simultaneously among the plurality of module interfaces (see Patel: col. 4 lines 30 – 40; see Dove: para. 0038).

It would have been obvious to one ordinary skilled in the art at the time the invention was made to modify the invention of Patel with Dove's teachings of automatically switching media connections when operating in forced speed and duplex mode in order to provide a guaranteed connection between nodes regardless of the manufacturer or the model of the product that was being used, as discussed by Dove (see para. 0005).

6. Claims 6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patel et al. (US PN. 5,883,894) in view of Dove (US Pub. No. 2003/0174726) and further in view of Moon et al. (US PN. 7,000,052).

Patel discloses automatic negotiation a set of ports for a mode of operation however Patel in view of Dove does not explicitly disclose the following: regarding claim 6, wherein negotiating, selecting and applying the interface personality are dynamic and occur automatically upon plugging the module into the one of the plurality of module interfaces; regarding claim 12, wherein negotiating, selecting and applying the interface personality are dynamic and occur automatically upon plugging the module into the one of the plurality of module interfaces.

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Regarding claim 6, Moon discloses wherein negotiating, selecting and applying the interface personality are dynamic and occur automatically upon plugging the module into the one of the plurality of module interfaces (see col. 2 lines 4 – 15 lines 60 – 63, col. 3 lines 14 – 25, col. 6 lines 1 – 16, automatically configured resources and ‘plug and play’).

Regarding claim 12, Moon discloses wherein negotiating, selecting and applying the interface personality are dynamic and occur automatically upon plugging the module into the one of the plurality of module interfaces (see col. 2 lines 4 – 15 lines 60 – 63, col. 3 lines 14 – 25, col. 6 lines 1 – 16, automatically configured resources and ‘plug and play’).

It would have been obvious to one ordinary skilled in the art at the time the invention was made to modify the invention of Patel and Dove, and have the features, as taught by Moon, thus for providing for an efficient configuration and deployment approach that allows for input/output cards to be efficiently managed and configured to operate in varying architecture or environments, as discussed by Moon (see col. 1 lines 35 - 45).

7. Claims 13, 14, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patel et al. (US PN. 5,883,894) in view of Dove (US Pub. No. 2003/0174726) and further in view of Chou et al. (US PN. 7,043,569) and Moon et al. (US PN. 7,000,052).

Regarding claim 13, the combination of Patel, Dove, Chou and Moon discloses wherein the plurality of pins include power pins (see Moon: col. 5 lines 32 – 37 and col. 7 lines 45 - 56), control pins (see Dove: para 0032), and datapath pins (see Chou: col. Fig. 5, Fig. 6, col. 8 lines 30 - 50).

Regarding claim 14, Dove discloses wherein the adaptive interconnect logic negotiates with the module using the control pins (see para. 0032).

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Regarding claim 17, the combination of Patel, Dove, Chou and Moon discloses wherein the plurality of pins include power pins (see Moon: col. 5 lines 32 – 37 and col. 7 lines 45 – 56), control pins (see Dove: para 0032), and datapath pins (see Chou: col. Fig. 5, Fig. 6, col. 8 lines 30 - 50).

Regarding claim 18, Dove discloses wherein the negotiating step with the module is performed using the control pins (0032).

It would have been obvious to one ordinary skilled in the art at the time the invention was made to modify the invention of Patel and Dove, and have the features, in order to configure an interconnect device without having to load configuration information into an interconnect device each time a reset of the interconnect device occurs, as discussed by Chou (see col. 2 lines 1 - 22) and in order to provide for an efficient configuration and deployment approach that allows for input/output cards to be efficiently managed and configured to operate in varying architecture or environments, as discussed by Moon (see col. 1 lines 35 - 45).

Conclusion

Examiner's Note: Examiner has cited particular paragraphs, columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the

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specification which dictate(s) the structure relied on for proper interpretation and, also to verify and ascertain the metes and bounds of the Claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Ngoc Nguyen whose telephone number is (571) 270-5139. The examiner can normally be reached on M - F, from 7AM to 3PM (alternate first Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on 5712723182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anh Ngoc Nguyen/
Examiner, Art Unit 2473
June 30, 2010

/KWANG B. YAO/
Supervisory Patent Examiner, Art Unit 2473